

Appl. No. 10/006,669
Amendment filed May 17, 2005
Reply to Office Action of February 17, 2005

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REMARKS

Claims 1-4 and 9 remain pending in this application. Claims 5-8 and 10-15 have been canceled without prejudice or disclaimer.

35 U.S.C. §102

Claims 5-8 and 10-15 stand rejected under 35 U.S.C. §102(b) as being anticipated by Martinez (U.S. Patent No. 4,498,146). These rejections are considered moot as these claims have been canceled by this amendment.

35 U.S.C. §112

Claims 1-4 and 9 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claim 1 has been amended to correct the change mistakenly made in the immediately prior Amendment.

The invention, as claimed, is a disk apparatus for reading and writing data to a storage medium, the disk apparatus including a storage means and a processing means. The storage means stores pieces of defective track information into areas at respective addresses, each corresponding to physical track number information. Each piece of the defective track information indicates the existence of defective tracks in a plurality of tracks. Defect information is stored in the storage means in predetermined groups, with each piece of the defect information indicating information on a defective track in the plurality of tracks.

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As set forth, e.g., in the specification at page 15, line 15, through page 16, line 10, defect information is a general term for information on defects, so as to associate a logical cylinder head sector (CHS) number or a logical block address (LBA) number specified by a host with a normal physical number which is readable and writeable, while avoiding defective sectors of the disk device. Examples of defect information include defective sector numbers, a designation of whether slip or skip processing should be made or not, and the like, as described in the specification. Thus, defect information is used to enable writing and reading data only in and from the normal sectors by avoiding the defective sectors.

On the other hand, defective track information is the defect information as applied to each track, such as defective sectors or defective tracks. The defective track information may be expressed for each single track, or for groups of n tracks. (See, e.g., the specification at page 6, lines 14-20.)

Accordingly, under the invention, the processing means is capable of receiving an instruction of read or write to a track of the storage medium, and referring to the storage means. The processing means is further capable of performing defect processing on a defective track. (See, e.g., the specification at page 14, lines 9-28.)

The storage means stores pieces of pointer information for groups of the pieces of defective track information. Each piece of the pointer information indicates a start address of a storage area for each the predetermined groups.

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When the processing means receives an instruction of read or write to a track of the storage medium, the processing means refers to a piece of said defective track information based on the respective addresses. Then, when existence of a defective track is indicated, the processing means refers to a piece of pointer information for a group to which the piece of the defective track information belongs, accesses the pieces of defect information on defective tracks sequentially from a storage area indicated by said piece of pointer information, detects defect information when the track as an object of said instruction is a defective track, and performs defect processing on said defective track based on said defect information. (See, e.g., the specification at page 16, line 11, through page 17, line 10.)

As a result of the invention, the number of accesses to memory required for defective track/sector processing is decreased because the addresses can be referred to based upon physical track number information. Accordingly, claim 1 is believed to accurately and clearly define the present invention in accordance the requirements of 35 U.S.C. §112, second paragraph. If the Examiner requires further discussion or explanation of the pending claims, he is encouraged to contact Applicants' undersigned attorney via telephone.

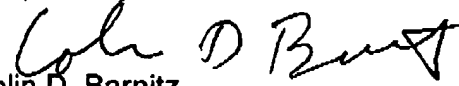
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Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,


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